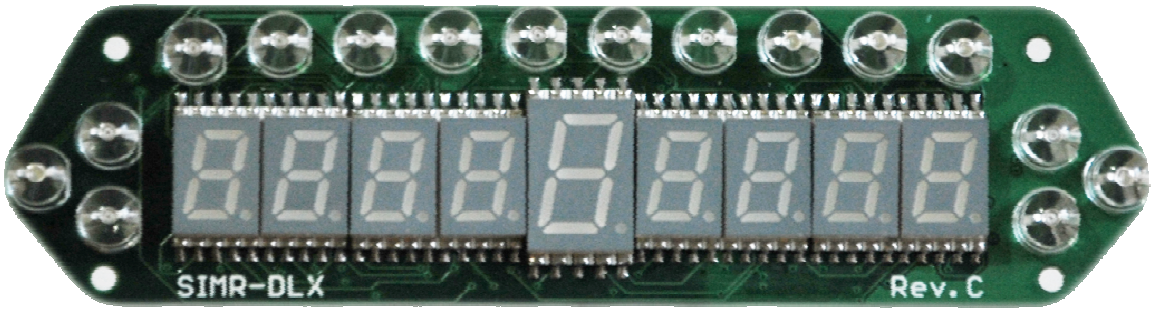
SIM Race Deluxe

USER MANUAL



SIM Display © 2013

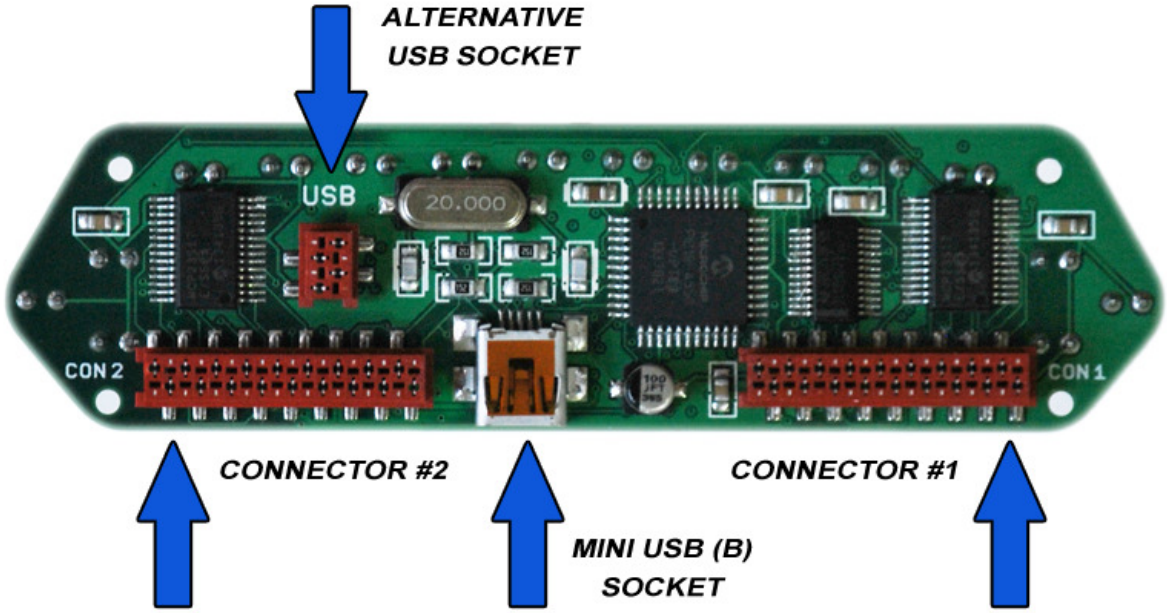
22. October 2013

Introduction

SIM Race Deluxe has 16 bright lights and gear indicator. You can display various data on four digit displays on each side. Brightness is adjustable in software. Direct connection for up to 29 buttons. You can also connect encoders, potentiometers, external lights and rotary switches. We recommend to connect buttons and rotary switches to take the full advantages of display. Device requires power for its operation and it needs to be plugged into USB port.

WARNING:

Please unplug device from your PC before making any connections !!!



Connector 1

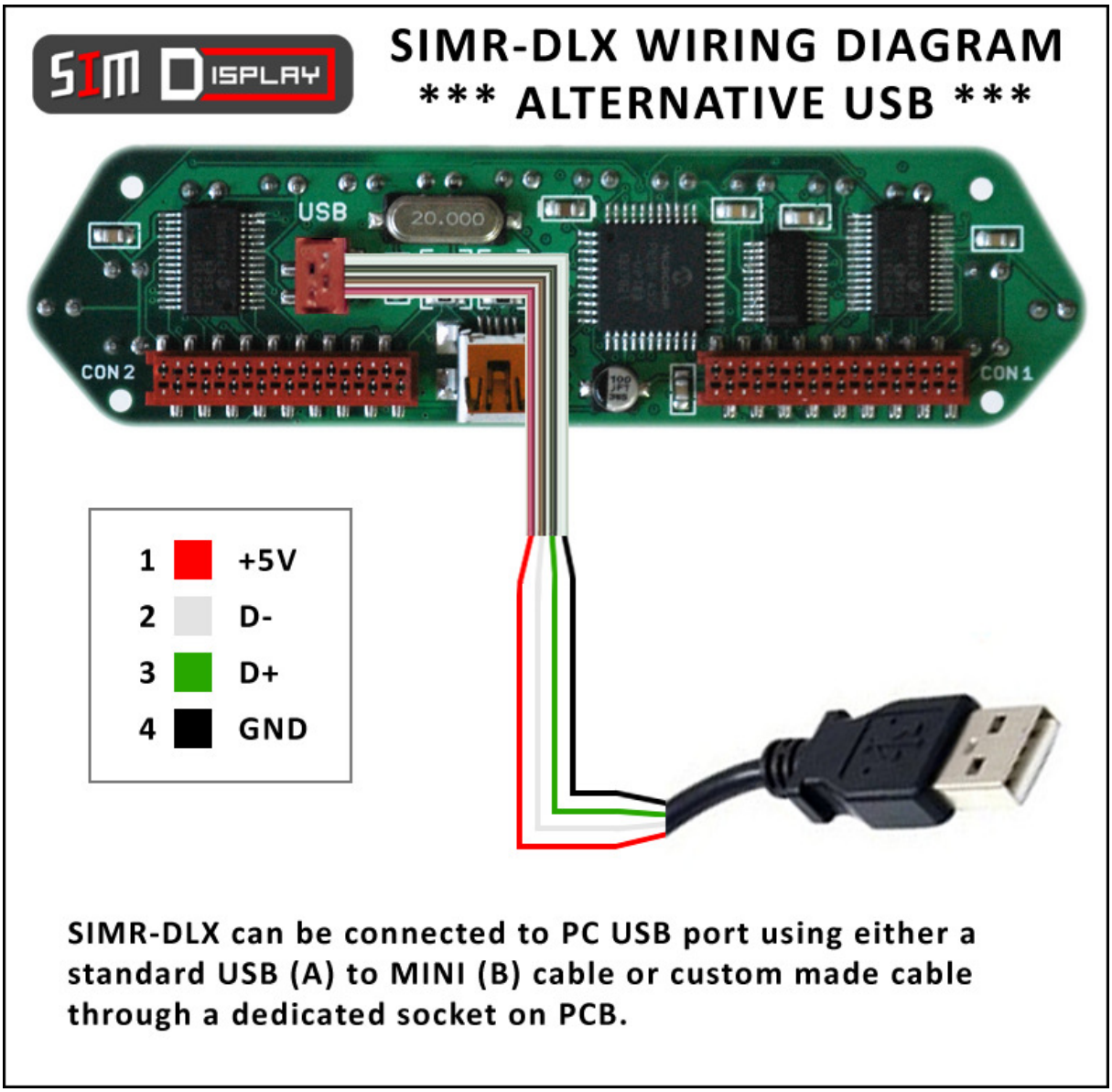
PIN	COLOR		BASIC FUNCTION	OPTIONAL
1		Brown	**GND**	-
2		Red	Button 1	Rotary Encoder 1
3		Orange	Button 2	
4		Yellow	Button 3	Rotary Encoder 2
5		Green	Button 4	
6		Blue	Button 5	Rotary Encoder 3
7		Violet	Button 6	
8		Gray	Button 7	Rotary Encoder 4
9		White	Button 8	
10		Black	Button 9	Rotary Encoder 5
11		Brown	Button 10	
12		Red	Button 11	Rotary Encoder 6
13		Orange	Button 12	
14		Yellow	Button 13	Rotary Encoder 7
15		Green	Button 14	
16		Blue	Button 15	Rotary Encoder 8
17		Violet	Button 16	
18		Gray	**+5V**	-

Connector 2

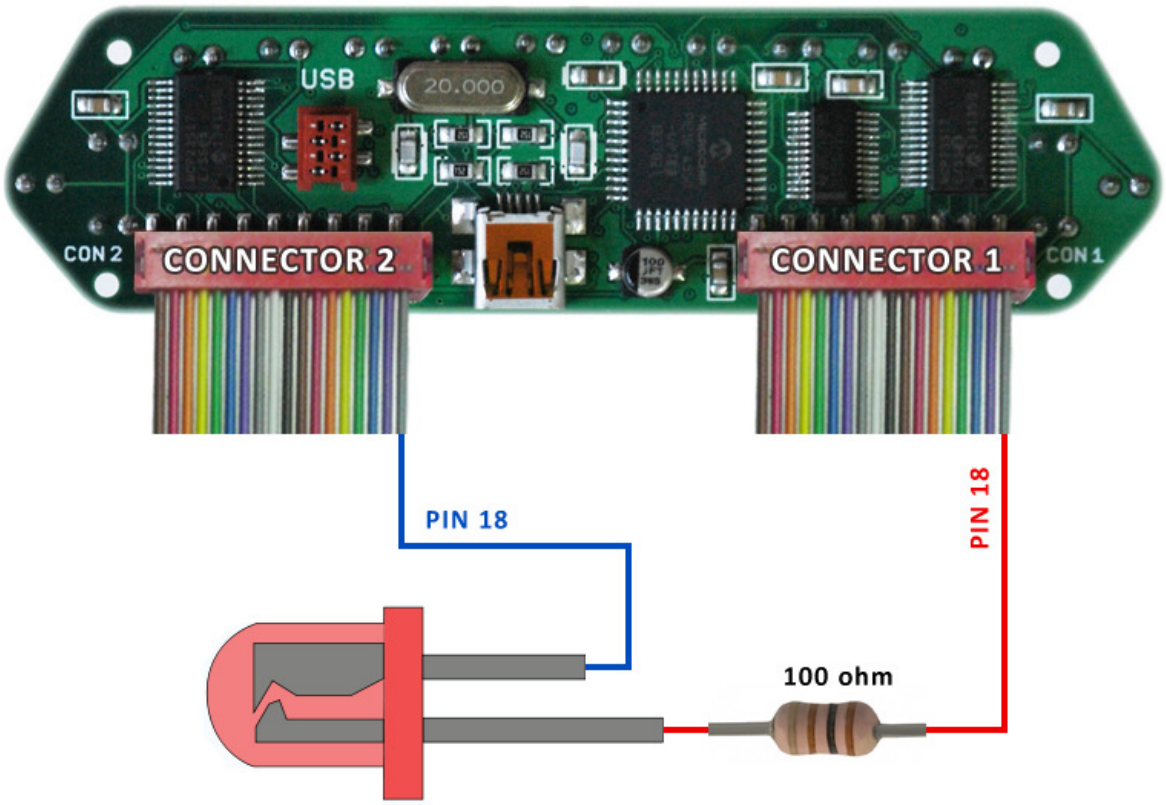
PIN	COLOR		BASIC FUNCTION	OPTIONAL
1		Brown	Button 17	-
2		Red	Button 18	-
3		Orange	Button 19	-
4		Yellow	Button 20	-
5		Green	Button 21	-
6		Blue	Button 22	-
7		Violet	Button 23	-
8		Gray	Button 24	-
9		White	Button 25	-
10		Black	Button 26	-
11		Brown	Button 27	-
12		Red	Button 28	-
13		Orange	Button 29	-
14		Yellow	LED 1	Switch 1
15		Green	LED 2	Switch 2
16		Blue	LED 3	Switch 3
17		Violet	LED 4	Switch 4 / Analog Input 1
18		Gray	LED 5	Switch 5 / Analog Input 2

Alternative USB Connector

PIN	COLOR		NAME	STANDARD USB WIRE
1		Red	VCC	**RED**
2		Brown	D -	**WHITE**
3		Black	D +	**GREEN**
4		White	GND	**BLACK**

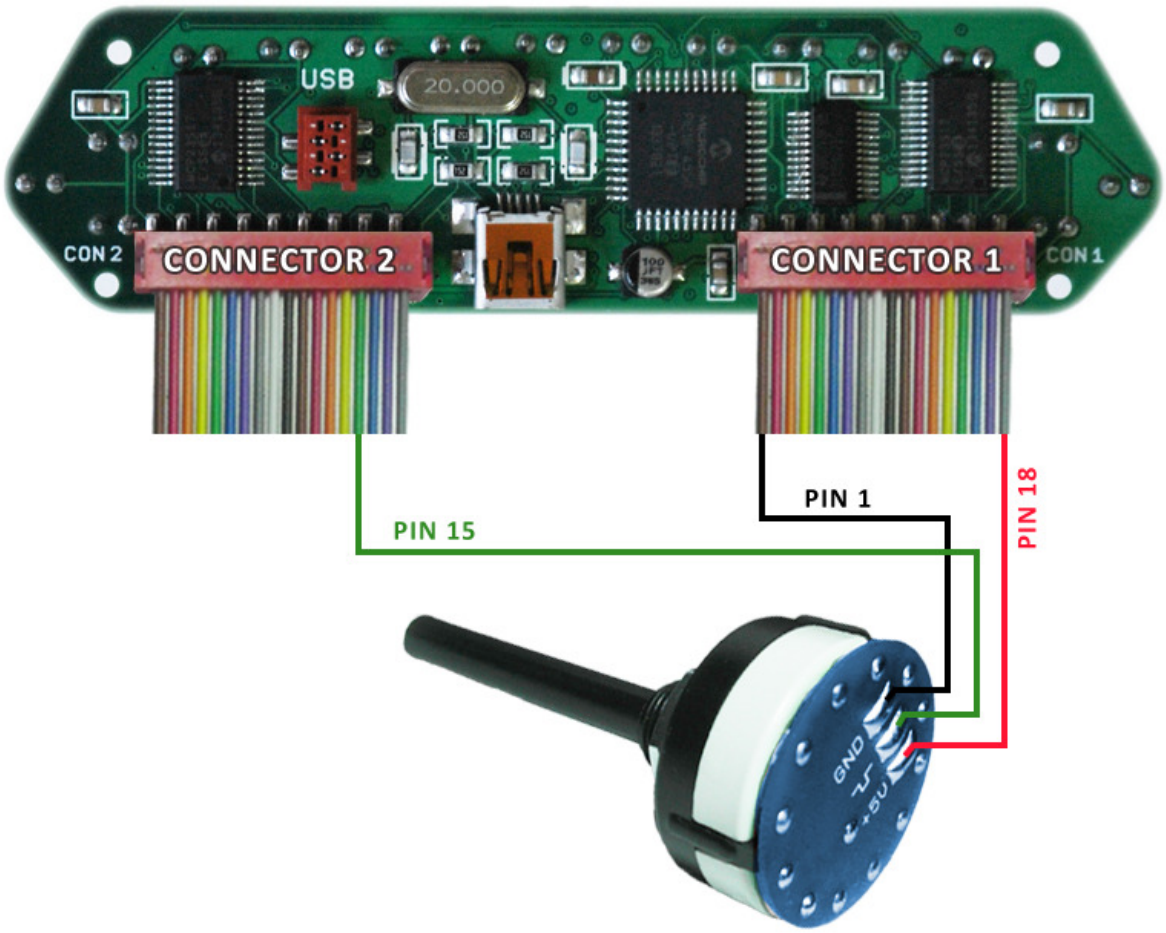

SIM DISPLAY
SIMR-DLX WIRING DIAGRAM
*** ALTERNATIVE USB ***
USB
20.000
CON 2
CON 1
1 +5V
2 D-
3 D+
4 GND
SIMR-DLX can be connected to PC USB port using either a standard USB (A) to MINI (B) cable or custom made cable through a dedicated socket on PCB.

SIMR-DLX WIRING DIAGRAM
*** EXTERNAL LEDS ***



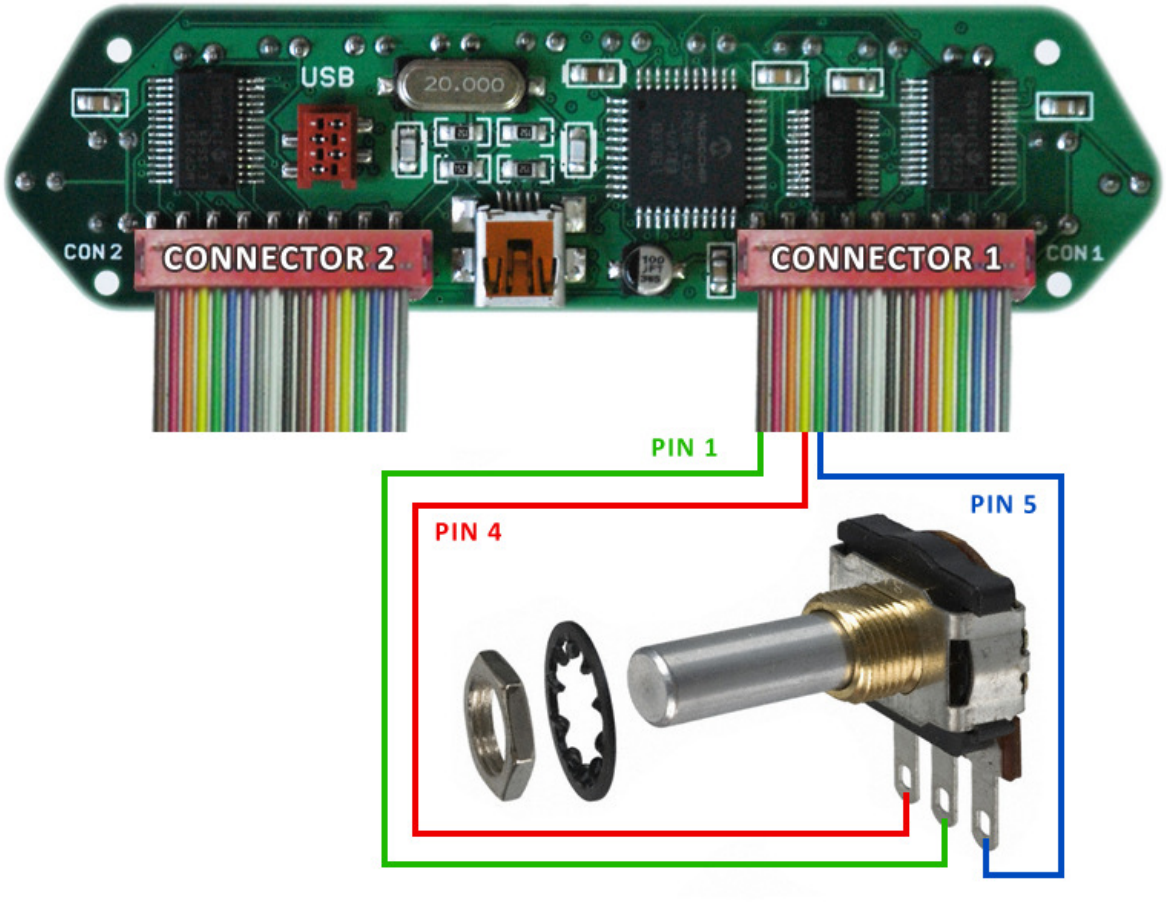
You must add an external resistor when connecting LEDS to limit the current. We recommend resistor value between 100 and 300 ohms !!!

SIMR-DLX WIRING DIAGRAM
*** ROTARY SWITCHES***



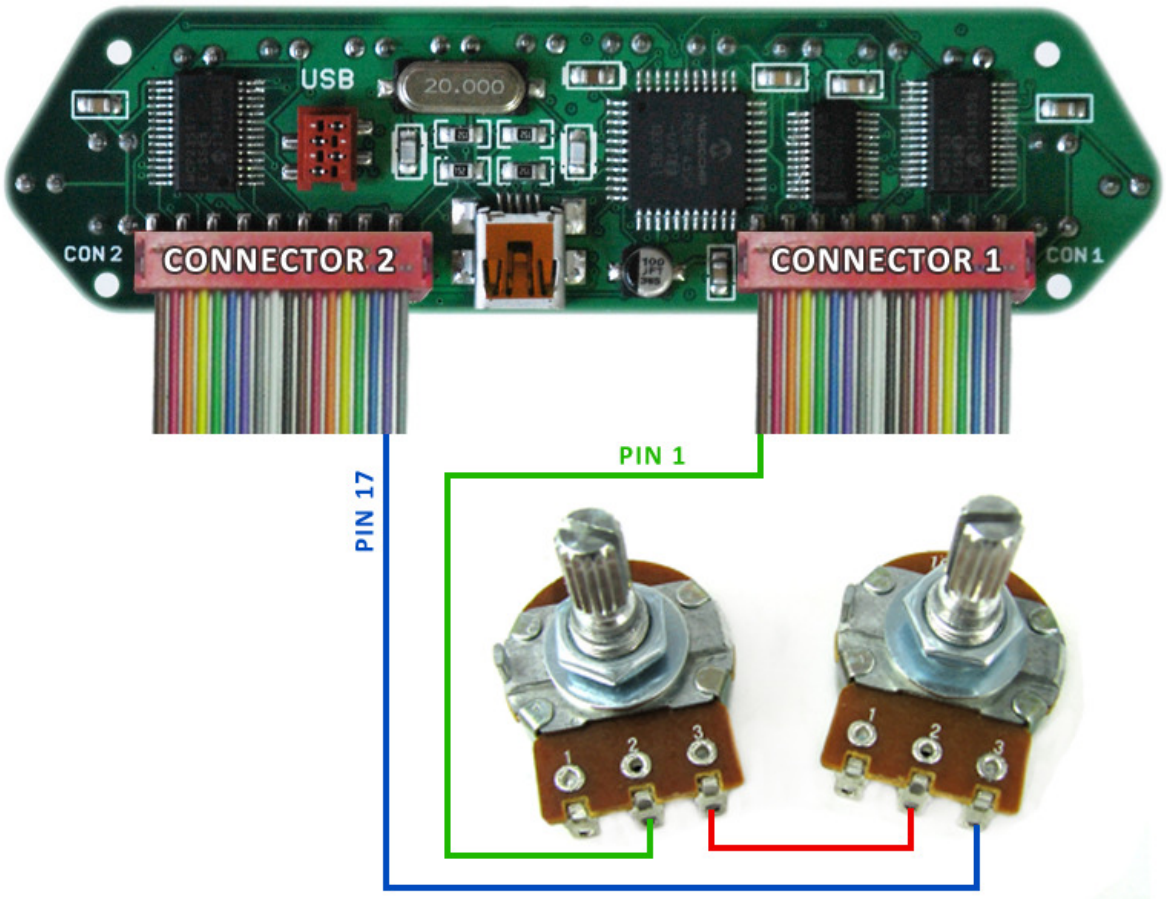
Please use rotary switches from SIM Display website only

SIMR-DLX WIRING DIAGRAM
*** ENCODERS ***

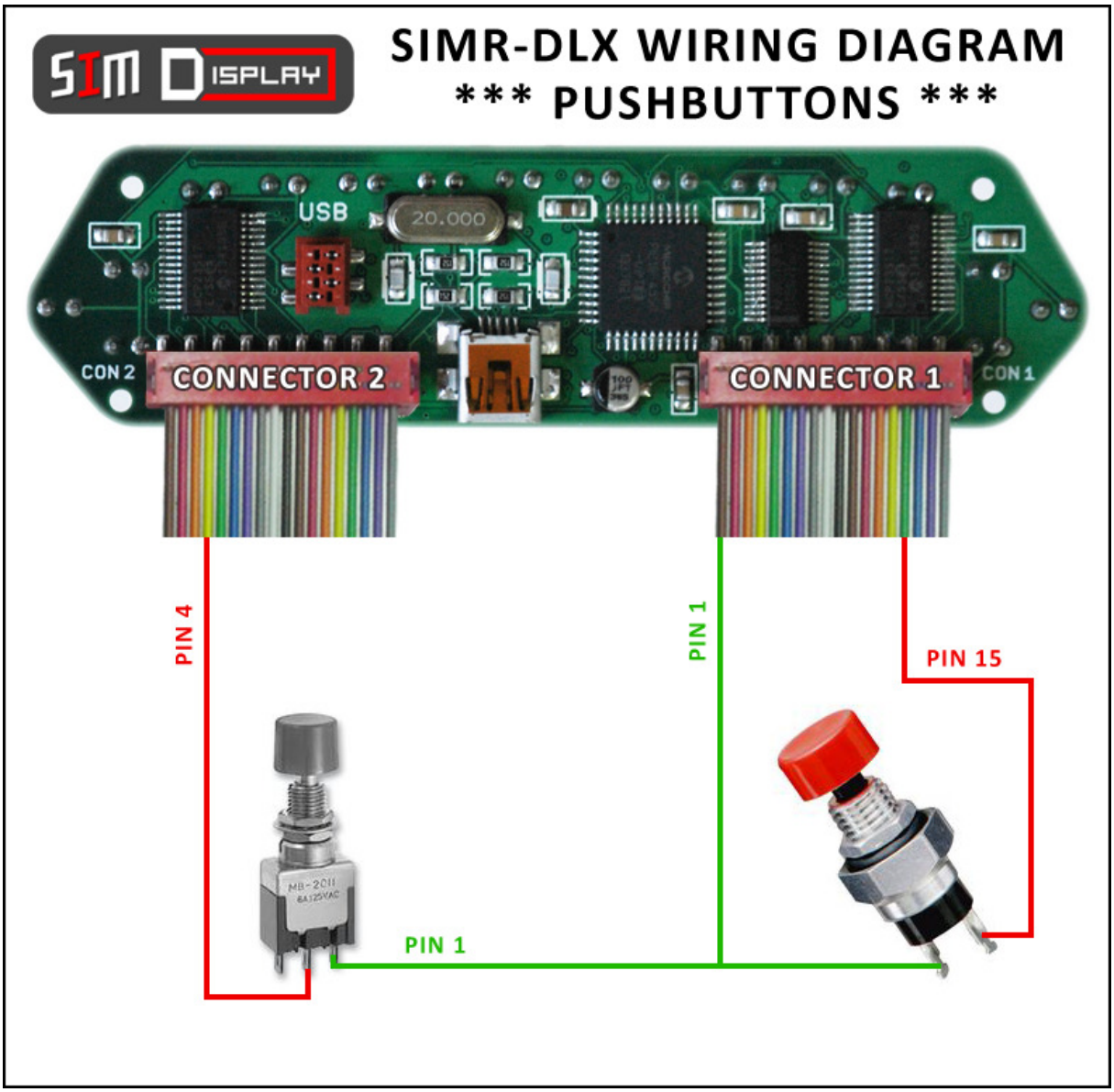


We recommend using encoders CTS-288

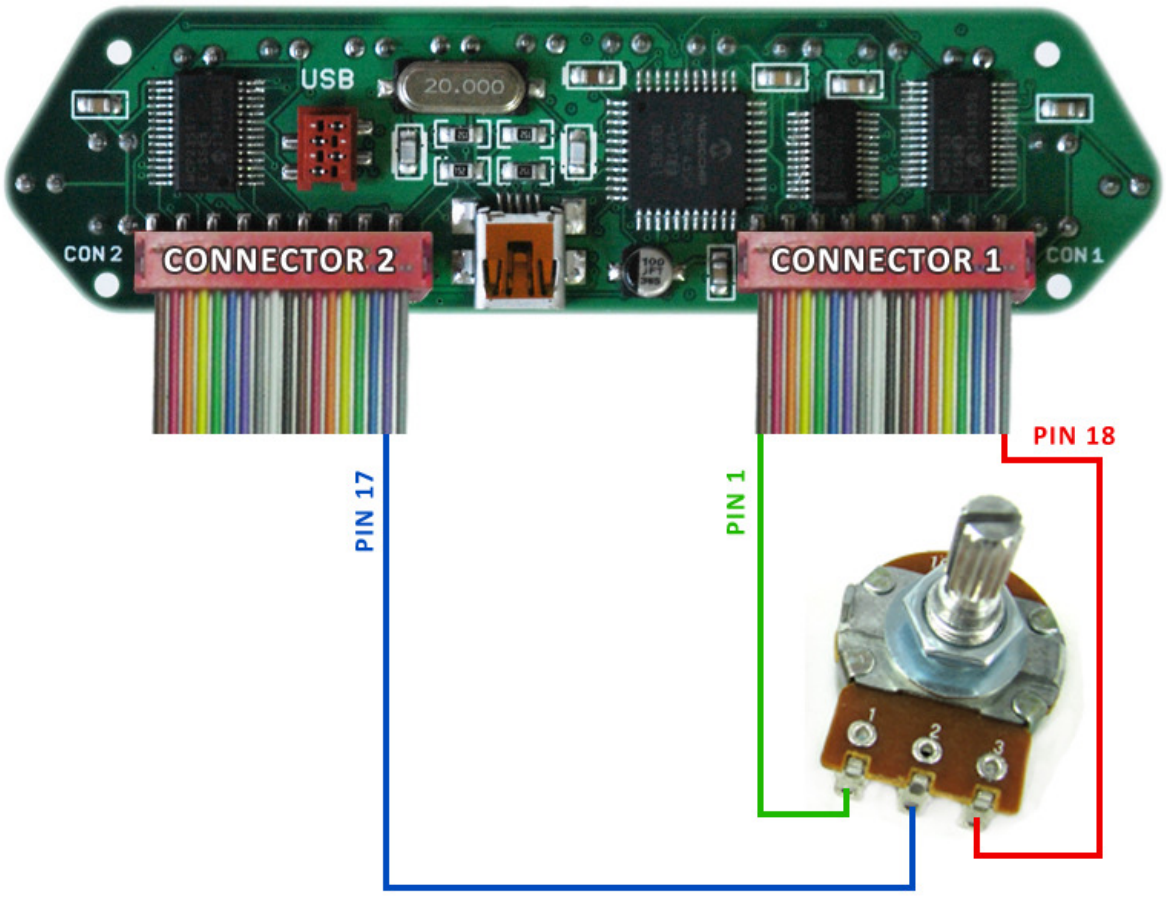
SIMR-DLX WIRING DIAGRAM
*** CLUTCHES ***



We recommend using two linear 10k potentiometers

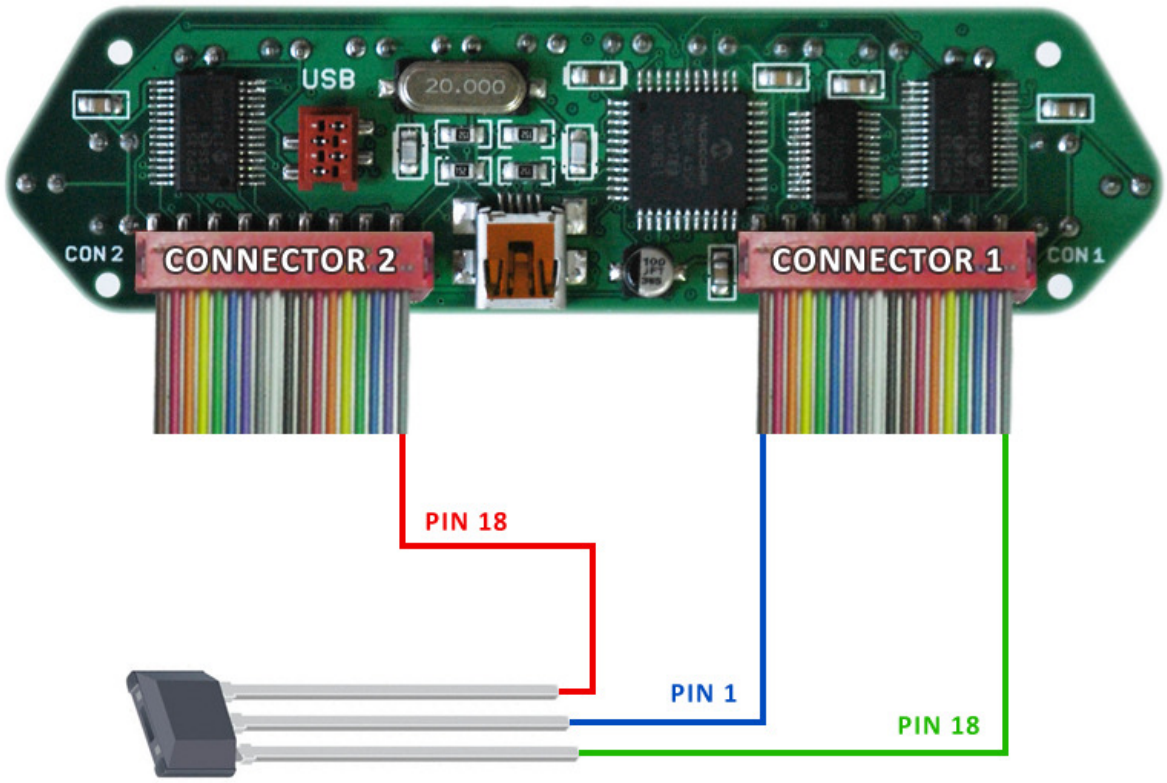

SIM DISPLAY
SIMR-DLX WIRING DIAGRAM
*** PUSHBUTTONS ***
USB
20.000
CON 2
CONNECTOR 2
CONNECTOR 1
CON 1
PIN 4
PIN 1
PIN 15
PIN 1

SIMR-DLX WIRING DIAGRAM
*** POTENTIOMETERS ***



We recommend using linear 10k potentiometer

SIMR-DLX WIRING DIAGRAM
*** HALL SENSOR A1302 ***



You must configure pin 18 as potentiometer in "Encoders Configuration" software

Encoders Configuration Software

Example: We are using two rotary encoders, two rotary switches, two external LEDs and one hall sensor/potentiometer. Please see picture below for proper setup in software: